Financial Burden of Chronic Diseases: Out-of-Pocket Expenses and Healthcare Accessibility in Middle-Class Indian Families

Chinmay Khawse[1], Aishwarya Deshmukh[2], Mayank Khurana[3], Ishan Randeria[4*]

[1] CA Final, Ernst & Young, Pune, Maharashtra
[2] CA Final, ICAI, Nagpur, Maharashtra
[3] Second Sem., BBA, VMV College of Commerce, Nagpur, Maharashtra
[4] MBBS, NKP Salve Institute of Medical Sciences & Research Centre, Nagpur, Maharashtra

Abstract

Background: Chronic diseases impose a significant financial burden on middle-class families in India, where out-of-pocket expenditures (OOPE) constitute a major portion of healthcare costs. Given the limited insurance coverage and high medical expenses, understanding the economic impact of chronic disease management is crucial.

Methods: A cross-sectional study was conducted with 350 participants diagnosed with chronic diseases. Data were collected through structured questionnaires assessing demographics, healthcare costs, insurance coverage, and coping mechanisms. Statistical analysis included descriptive measures, comparative analysis, and regression modeling to identify financial burden determinants.

Results: The study found that 60% of participants lacked adequate health insurance coverage, leading to significant OOPE. Monthly medical expenditures ranged from INR 1,800 for hypertension to INR 6,500 for CKD medications, with hospitalizations averaging INR 50,000 annually for CKD patients. Financial coping strategies included depletion of savings (58%), borrowing (37%), and delaying treatment (42%). Patients with CKD experienced the highest financial strain, reinforcing the inadequacy of current health financing models.

Conclusions: The findings highlight the urgent need for improved health insurance coverage and financial support mechanisms for middle-class families. Policy interventions, such as price regulation of essential medications and enhanced insurance schemes, are necessary to alleviate financial distress and ensure equitable healthcare access.

Publication Details

Submission: 26/03/2025

Revision: 31/03/2025

Published: 12/04/2025

Corresponding Author

Dr. Ishan Randeria,

MBBS, NKP Salve Institute of Medical Sciences and Research Centre, Nagpur, Maharashtra

Email: ishanranderia16@gmail.com

INTRODUCTION

Chronic diseases are a growing public health concern in India, contributing significantly to morbidity, mortality, and economic hardship.(1) The rising prevalence of conditions such as diabetes, hypertension, and chronic kidney disease (CKD) has led to increased healthcare expenditures, with a considerable proportion of the financial burden falling on patients and their families.(2) Middle-class families, in particular, face unique challenges as they often do not qualify for government-funded healthcare schemes while also lacking comprehensive private insurance coverage.(3)

India's healthcare system remains predominantly out-of-pocket (OOP) in terms of expenses, with estimates suggesting that nearly 60% of total healthcare costs are borne by individuals.(4) The middle-class population, which forms a significant segment of Indian society, is particularly vulnerable to financial distress caused by chronic diseases. Unlike the economically weaker sections that may benefit from government interventions, middle-class families often find themselves caught in a gap, where medical expenses can quickly erode their savings and push them toward debt.

This study aims to examine the financial burden faced by middle-class Indian families in managing chronic diseases. By analyzing various cost components—including medications, doctor consultations, diagnostics, and hospitalizations—the effects of these expenses on household finances and healthcare accessibility are assessed. Additionally, the role of health insurance and other coping mechanisms used by families to manage these expenses is explored. The findings can provide valuable insights into the need for better healthcare financing strategies and policy interventions tailored for middle-income populations.

METHODOLOGY

This study was designed as a cross-sectional observational study aimed at assessing the financial burden of chronic diseases on middle-class families in India. A structured questionnaire was used to collect data from participants regarding their healthcare expenses, insurance status, and coping mechanisms.

Study Population and Sampling

The study population comprised individuals diagnosed with at least one chronic disease, including diabetes, hypertension, or CKD, for a minimum duration of one year. Participants were selected from urban and semi-urban regions across India.

Inclusion Criteria

- Individuals aged 18–70 years.
- Diagnosed with diabetes, hypertension, or CKD for at least one year.
- Belonging to middle-class socioeconomic status

Exclusion Criteria

- Patients receiving 100% free treatment under government schemes.
- Individuals with acute or terminal illnesses requiring palliative care.

A stratified **random sampling** technique was employed to ensure representative participation across disease categories and socioeconomic subgroups. The final sample size consisted of 350 participants, based on a power calculation to ensure statistical significance in assessing financial burden differences.

Data Collection and Measures
Primary data were collected using a structured, validated questionnaire administered via face-to-face interviews and digital surveys. The questionnaire covered the following domains:
- **Demographic Information**: Age, gender, income level, employment status.
- **Disease Profile**: Type of chronic disease, duration of illness, treatment regimen.
- **Healthcare Expenditure**: Cost of medications, doctor visits, diagnostic tests, hospitalization expenses.
- **Insurance Coverage**: Type of health insurance, extent of coverage, out-of-pocket payments.
- **Coping Strategies**: Use of savings, loans, financial support from family, delays in treatment due to cost concerns.

Data Analysis
The collected data were analyzed using SPSS software (version 26.0). Descriptive statistics, including mean, median, and standard deviations, were used to summarize financial expenditures. Comparative analysis was performed to evaluate differences in healthcare costs among disease types and insured versus uninsured participants. Regression analysis was conducted to assess correlations between income level and financial burden. A **p-value of <0.05** was considered statistically significant.

RESULTS

Demographic Characteristics
- Age Distribution: 18–40 years (20%), 41–60 years (50%), 61–70 years (30%)
- Gender: Male (55%), Female (45%)
- Income Distribution: Lower-middle class (45%), Upper-middle class (55%)
- Insurance Coverage: 40% insured, 60% uninsured

Financial Coping Mechanisms
- Savings depletion: 58%
- Borrowing/loans: 37%
- Delay in treatment due to cost: 42%
- Family financial support: 29%

Regression Analysis of Financial Burden Determinants
Regression analysis showed significant predictors of out-of-pocket expenditure:
- Income level: $\beta = -0.45$, $p < 0.01$
- Insurance status: $\beta = -0.52$, $p < 0.001$
- Disease severity: $\beta = 0.39$, $p < 0.01$

These findings suggest that uninsured and lower-income households experience higher financial strain, while disease severity further escalates OOPE.

DISCUSSION

The findings of this study highlight the substantial financial burden placed on middle-class Indian families managing chronic diseases. The high OOPE forces many households into financial distress, with CKD patients facing the highest burden due to costly medications and frequent hospitalizations. Despite the presence of health insurance, coverage remains inadequate, with many policies failing to cover essential expenses such as diagnostics and routine check-ups.

Compared to previous studies, the results align with research indicating that over 60% of healthcare expenses in India are out-of-pocket, disproportionately affecting non-poor but uninsured populations.(4) Studies have similarly demonstrated that insurance penetration remains insufficient to alleviate financial distress among middle-income households.(5,6)

In conclusion, these findings underscore the urgent need for policy reforms aimed at expanding health insurance coverage, subsidizing essential medications, and improving public healthcare accessibility. Targeted interventions, such as price regulation for chronic disease treatments and awareness programs promoting insurance uptake, could play a crucial role in reducing financial distress among middle-class families in India.

Table 1. Out-of-Pocket Expenditures (INR per month)

Expense Category	Diabetes (n=150)	Hypertension (n=120)	CKD (n=80)
Medications	2,500	1,800	6,500
Consultations	800	600	1,200
Diagnostics	1,200	900	3,000
Hospitalization (Annual Avg.)	20,000	15,000	50,000

REFERENCES

1. Jana, A., & Chattopadhyay, A. (2022). Prevalence and potential determinants of chronic disease among elderly in India: Rural-urban perspectives. *PloS one*, *17*(3), e0264937. https://doi.org/10.1371/journal.pone.0264937
2. Hacker K. (2024). The Burden of Chronic Disease. *Mayo Clinic proceedings. Innovations, quality & outcomes*, *8*(1), 112–119. https://doi.org/10.1016/j.mayocpiqo.2023.08.005
3. Dubey, S., Deshpande, S., Krishna, L., & Zadey, S. (2023). Evolution of Government-funded health insurance for universal health coverage in India. *The Lancet regional health. Southeast Asia*, *13*, 100180. https://doi.org/10.1016/j.lansea.2023.100180
4. Sriram, S., & Albadrani, M. (2022). Impoverishing effects of out-of-pocket healthcare expenditures in India. *Journal of family medicine and primary care*, *11*(11), 7120–7128. https://doi.org/10.4103/jfmpc.jfmpc_590_22
5. El-Sayed, A. M., Vail, D., & Kruk, M. E. (2018). Ineffective insurance in lower and middle income countries is an obstacle to universal health coverage. *Journal of global health*, *8*(2), 020402. https://doi.org/10.7189/jogh.08.020402
6. Zheng, L., & Su, Y. (2022). Inclusive Insurance, Income Distribution, and Inclusive Growth. *Frontiers in public health*, *10*, 890507. https://doi.org/10.3389/fpubh.2022.890507